

Amendment relating to claims 1-20. After addition of newly presented claims 42-61, claims 38-61 are now pending in this case.

In paragraph 6, claims 1-8 and 20 (now corresponding to claims 42-49 and 61) were rejected under 35 U.S.C. § 112, first paragraph. The Action asserts that the application does not reasonably provide enablement for method wherein the deposition step fails to fill the gaps. Applicant disagrees, and therefore traverses this rejection. The specification, at page 12, line 26 through page 13, line 5, describes that:

The HDPCVD of layer 38 is performed until the gap 36 is substantially filled with a material that is preferably high density oxide having essentially no voids therein. By essentially void free the inventors mean that when compared with a conventionally deposited oxide layer, the HDPCVD oxide layer will be substantially free of voids. **As shown in Fig. 4, the gap may be filled to the level of the top of protective layer 26.** Depending on the subsequent processing steps to be performed, the area above the deposited layer 38 may be filled with layer 40. The layer 40 may be selected from a variety of materials and formed using a variety of techniques. Preferably the layer 40 is an oxide layer, which may be deposited at a higher speed than is typical of present HDPCVD processes. . . . .

This description clearly demonstrates that the gaps need not be completely filled, as suggested in paragraph 6 of the Action. Thus, the pending claims satisfy the requirements of 35 U.S.C. § 112, first paragraph.

In paragraph 7, claims 1, 2 and 5-8 (now claims 42, 43 and 46-49) were rejected under 35 U.S.C. § 112, first paragraph. The Action asserts that the specification is enabling for methods wherein high density plasma chemical vapor deposition is used to deposit the dielectric material within the gaps between the wiring lines, it does not reasonably provide enablement for methods utilizing other deposition techniques to deposit the dielectric material.

Claim 42 as present incorporates previously presented Independent claim 1 after amendment to address this rejection. Claim 42 recites the depositing of a dielectric material within the gaps between the wiring lines *using a plasma based process having both an etching component and a deposition component*. These are distinguishing characteristics of a process currently referred to as high density plasma chemical vapor deposition. Support for this amendment may be found throughout the specification, e.g., at page 6, lines 15-27.

In paragraph 8, claims 1-19 (now claims 42-60) were rejected under 35 U.S.C. § 112, first paragraph. The Action asserts that it is unclear how the antireflective coating (claim 1) and cap layer (claim 9) are selectively etched because the claims do not recite a mask layer or a photoresist layer. Applicant submits that the pending claims satisfy the requirements of 35 U.S.C. § 112, first paragraph. Therefore, applicants traverse this rejection.

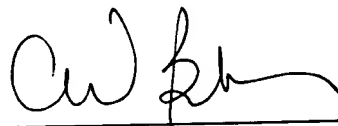
Independent claim 1 (claim 42) recites the step of *etching through portions of the first antireflective coating, a portion of the cap layer, and a portion of the wiring line layer to form wiring lines separated by gaps.* Independent claim 9 (claim 50) recites the step of *etching through a portion of the cap layer and portions of the wiring line layer to form wiring lines separated by gaps . . . .* In an exemplary embodiment described at page 10, lines 16-24, a layer of photoresist is used to form a mask layer. However, it will be appreciated by one of ordinary skill in the art that alternate manufacturing techniques may not require the use of a mask layer to selectively etch the underlying layers to form wiring lines. Therefore, the use of a mask layer is not essential to the claimed invention.

In view of all of the above, claims 42-61 are believed allowable and the application is in condition for allowance, which action is respectfully requested.

Newly presented claims 38-41 add additional limitations to claims 42-61. Should the Examiner be of the opinion that a telephone conference would expedite the prosecution of this case, the Examiner is requested to contact Applicants' attorney at the telephone number listed below.

Although no fee is believed due for this filing, any fee associated with this transmittal may be charged to Deposit Account No. 50-1123.

Respectfully submitted,



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